# Exhibit A



# **U.S. Department of Justice**Criminal Division | Fraud Section

1100 Commerce Street, Third Floor, Dallas, Texas 75242-1699 Main: 214-659-8600 | Fax: 214-659-8802

November 1, 2024

#### **VIA ELECTRONIC MAIL**

Scottie Allen
Scottie D Allen
Scottie D Allen & Associates
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Dallas, TX 75204
scottiedallen@scottiedallenlaw.com

RE: United States v. Keith Gray, 3:24-cr-00250-S

Dear Counsel:

The United States of America provides this notice and a written summary of the expected testimony of the witnesses described below, whom the Government currently intends to call at trial during its case-in-chief ("Notice"), in compliance with its obligations under Federal Rule of Criminal Procedure 16(a)(1)(G) and Federal Rules of Evidence ("FRE") 702, 703, and 705. The Government may choose not to attempt to elicit the testimony outlined in this Notice but provides this information out of abundance of caution and in order to comply with the applicable rules.

Each of the witnesses described below may also testify as a fact witness in this case regarding matters of which they have personal knowledge under FRE 602 and about which they may opine under FRE 701.

The Government provides notice of the testimony of Dr. Rajat Deo, who will provide expert testimony at trial under FRE 702. Out of an abundance of caution, the Government also provides notice of the testimony of Shauna Hull and Marylee Robinson, even though the Government believes that Ms. Hull and Ms. Robinson's anticipated testimony described herein is factual such that it should be received as lay opinion pursuant to FRE 701.

Each of these witnesses may testify pursuant to a trial subpoena, and where the Government has executed an expert agreement or provided remuneration for their time in consulting and testifying, it is so indicated. Each witness may also receive coverage of regular expenses, which the Government or the witness's employing agency may pay or reimburse for all witnesses, expert or non-expert.

The Government acknowledges its continuing duty to disclose evidence or material obtained before or during trial pursuant to Federal Rule of Criminal Procedure 16(c). Should unexpected events arise between now and trial which might require additional or different expert testimony, the Government will promptly seek the Court's permission to offer the testimony of additional or alternative expert witnesses.

#### A. Dr. Rajat Deo

The government intends to call Dr. Rajat Deo to testify regarding cardiovascular disease, the nature of genetic testing for cardiovascular diseases, and the medically appropriate and medically inappropriate uses of these tests. The government also intends to elicit opinion testimony regarding the same as applied to the above-captioned case. Dr. Deo's qualifications, training, publications, and experience are summarized in his curriculum vitae, which is incorporated by reference. The government will compensate Dr. Deo for his work in this case at the rate of \$500 per hour for case analysis and trial preparation and \$5,000 per day for out-of-state testimony or trial preparation meetings. As of the date of this correspondence, Dr. Deo has received approximately \$50,382.84 from the Fraud Section, Criminal Division, U.S. Department of Justice, for his expert witness services in other cases.

Dr. Deo may create expert reports, which will be provided to you. The Government may supplement any of Dr. Deo's reports as necessary as trial approaches, including by asking Dr. Deo to opine on additional requisition orders or patient files for beneficiaries that the Defendant's labs billed for.

Dr. Deo holds an S.B. from MIT, an M.D from the University of Michigan Medical School, and a Masters of Science in Translational Research from the University of Pennsylvania School of Medicine. Currently, Dr. Deo serves as the Director of the Penn Arrhythmia Genetics Program at the University of Pennsylvania, where he has also served as a Cardiologist for the Department of Athletics since 2013. Dr. Deo is board certified in Internal Medicine, Cardiovascular Disease, and Clinical Cardiac Electrophysiology. He is licensed in California, Maryland, and Pennsylvania. Dr. Deo is a member of multiple professional and scientific societies, and has held editorial positions for numerous medical journals, including serving as a reviewer for the American Journal of Cardiology since 2006. Dr. Deo has held multiple academic appointments and lectured on cardiology issues multiple times. Dr. Deo has authored dozens of publications on cardiology, including publications pertaining to cardio genetic testing. A copy of Dr. Deo's curriculum vitae ("CV") is included as **Attachment A**.

In the last four years, Dr. Deo has testified as an expert witness in three trials. He testified for the United States in *United States v. Carver et al.*, 22-80022-CR-CANNON/REINHART (S.D. Fl. 2023), a criminal case, and for the plaintiff in *Joellen McHugh v. Gloria Chen*, No. 2019-L-008034 (Circuit Court of Cook County, First Municipal District, Ill. 2019), a medical malpractice case. He also has been deposed in *Proton-Pump Inhibitor Products Liability Litigation*, No. 2:17-MD-2789 (D.N.J. 2017), a multi-district products liability case, as a witness for the defendant AstraZeneca.

As a result of his extensive experience, Dr. Deo has become familiar with cardio genetic testing, including the purposes, clinical uses, and medically appropriate and inappropriate uses of these tests.

The Government anticipates that Dr. Deo's testimony may cover the following topics and include the following opinions:

#### 1. Background on Cardiac Disease and Cardio Genetic Testing

- Dr. Deo will explain what cardiac diseases are and what cardio genetic testing is. Namely, cardio genetic testing looks for genes or genetic mutations associated with certain inherited cardiac diseases.
- As a general matter, it is not appropriate to use these tests as a routine screening tool in the general population. Instead, the tests should be used for a medical decision-making purpose. Thus, it is essential that the tests be ordered by a medical professional who is knowledgeable about the proper uses of cardio genetic tests, who actually is treating the patient and uses the results in the patient's treatment, and who can appropriately counsel the patient about the benefits and risks of these tests.

#### 2. Medically Appropriate & Inappropriate Uses of Cardio Genetic Tests

• In a patient where an inherited cardiac syndrome is suspected, a cardio genetic test may be indicated as a tool to assist treating physicians, gather information, discuss treatment options and assist patients with making informed decisions about their care. Cardio genetic testing should only be ordered to compliment a complete care program managed by one or more physicians or appropriately trained health care providers with the expertise to treat the patient. Managed by a physician treating these patients, the information obtained from cardio genetic testing can play a meaningful role in providing quality care. It can also assist family members in determining whether they are likely to have a gene or mutation associated with an inherited cardiac disease, and therefore assist in early treatment or risk management.

- A primary care physician or other non-specialist physician should not normally order cardio genetic testing; instead, such testing is typically ordered after referral to a specialist.
- Cardio genetic testing typically should not be the first step in managing a patient's cardiac-related illness, particularly for a patient with no diagnosed first-degree familial cardiac genetic mutation. Cardio genetic testing should be used on a highly selective patient population. Patients whose sole diagnosis is essential hypertension or chronic ischemic heart disease generally should not receive cardio genetic testing as a matter of routine treatment.
- Dr. Deo will answer hypothetical questions, including hypothetical questions drawn from the facts of this case, to further explain what would be, in his opinion, medically appropriate and inappropriate uses of these tests.
- Dr. Deo will contrast cardio genetic testing with other forms of tests which are
  diagnostic in nature and designed to identify the existence of cardiac disease, for
  example, electrocardiograms, echocardiograms, stress tests, cardiac
  catheterization, CT scans, and cardiac MRIs. Common cardiac diseases such as
  essential hypertension or chronic ischemic heart disease generally should be
  evaluated through routine imaging or other traditional diagnostic tools in the first
  instance.
- Cardio genetic testing results are frequently complex and inconclusive in nature such that they require the skills of a properly trained physician or other properly trained and certified health care providers to accurately interpret them in a manner that is useful to the patient. Absent involvement by a competent treating physician, there is unreasonable risk that patients could misinterpret cardio genetic testing results which could lead them to make premature and unwarranted medical decisions, or conversely to take an apathetic approach to their health based upon a false sense of security. Information revealed by cardio testing can also exact psychological tolls on patients absent proper management, including pre- and post-testing genetic counseling, by a trained professional.
- Dr. Deo will explain that cardio testing results can also be misleading. For example, a negative result does not mean that a particular patient will not develop cardiac disease, nor does it mean that the patient has a reduced overall risk for the future development of cardiac disease during the course of his or her lifetime. Absent comprehensive genetic counseling, a patient could misinterpret a negative test result to their future detriment.
- Dr. Deo will testify that the potential benefits of cardio genetic testing outweigh risks and that such testing is medically indicated in a limited number of high-

risk patients such as those with a first-degree family member who has a known diagnosis of an inherited cardiac disease. Patients having relatives with a vague history of cardiac disease do not qualify as suggestive inherited cardiac syndrome; indeed, some form of cardiac disease is quite common in the general population but does not by itself necessarily warrant cardio genetic testing. In addition, patients with certain unique clinical presentations, such as a very young patient experiencing cardiac arrest, are referred to sub-specialty care and may also warrant cardio genetic testing.

- Dr. Deo will testify that, when a treating physician decides that it is in his or her patient's best interest to receive cardio genetic testing and subsequently orders it, the testing should be accompanied by comprehensive pre- and post-testing genetic counseling provided by a genetic counselor, physician, or health care provider with appropriate training and experience in the area of genetics. Genetic counseling is a service provided by a properly credentialed medical provider who helps to explain the purpose of a genetic test, how the test will be done, what the results will look like, what different results might mean, and what the implications of those results might be in terms of how they might affect treatment. Genetic counseling is also useful to explain to patients what impacts if any, cardio genetic testing results might have on other immediate family members, especially children.
- Dr. Deo will testify that, as a treating physician, he is familiar with the importance of thoroughly documenting patients' medical charts. Dr. Deo will testify that the purpose of a medical chart is to document the patient encounter, record the information reviewed and document a future plan of care for the patient. Proper charting is vital to continued care of patients because health care providers see patients in episodes over a short period of time. When it comes to cardio genetic testing, patients' medical charting should thoroughly document the bases for ordering cardio genetic testing, which cardio genetic test was deployed, as well as contain information about how the decision to conduct genetic testing fits into the referring physician's treatment plan for the patient.

### 3. Specific Opinions about Cardio Genetic Testing in this Case

- Dr. Deo may also review documents produced to the defense and offer opinions on those documents based on his extensive relevant training and experience as described in his CV (see **Attachment A**).
- For example, Dr. Deo may offer opinions on the testing purportedly conducted on specific patients in this case, including opinions regarding whether testing of specific patients was medically appropriate, based on his experience and the principles discussed herein.

• Dr. Deo may also create or refer to summary exhibits.

The United States has provided Dr. Deo with requisition orders and associated documents for Medicare beneficiaries (including patient files received from PCPs), including documents identified by production Bates labels, <sup>1</sup> and other documents and records obtained through the investigation, all of which have been produced to you. Dr. Deo may review other documents produced to the Defendant and offer opinions on those documents based on his extensive relevant training and experience as described in his CV and this Notice.

#### B. Shauna Hull

The United States intends to call Shauna Hull, or another witness, to explain how Medicare works, Medicare's coverage for laboratory testing (including the cardio genetic testing conducted in this case), Medicare's coverage for telemedicine, the fact that Medicare does not cover claims based on kickbacks or bribes, the representations that providers, including owners of laboratories, must make to enroll with Medicare, and the claims submitted by the Defendant's laboratories to Medicare. Ms. Hull is not being specifically compensated for her testimony in this case; instead, trial testimony is part of her ordinary duties as set forth below.

Ms. Hull has worked for several Medicare contractors primarily in fraud investigations. She is currently employed by Qlarant Quality Solutions ("Qlarant") and supports the Southwest Unified Program Integrity Contractor ("UPIC"). In her current role, Ms. Hull is responsible for support and education for federal law enforcement agencies, training and development of staff, outreach activities relating to fraud and abuse, and coordinating and sharing information with the Centers for Medicare and Medicaid Services

<sup>1</sup> Materials include Bates ranges: FLGT AXIS 0003352, FLGT AXIS 0007661 - FLGT AXIS 0007663, FLGT AXIS 0003652, FLGT AXIS 0021665 FLGT AXIS 0021667, FLGT AXIS 0003114, FLGT AXIS 0022450 FLGT AXIS 0022452, FLGT AXIS 0000676 FLGT AXIS 0000678, FLGT AXIS 0005684 FLGT AXIS 00005685, FLGT AXIS 0001890 FLGT AXIS 0001892, FLGT AXIS 0005981 FLGT AXIS 0005982, FLGT AXIS 0005639 FLGT AXIS 0005641, FLGT\_AXIS\_0009327, FLGT\_AXIS\_0007917 FLGT\_AXIS\_0007919, FLGT AXIS 0009324 FLGT\_AXIS\_0010535 FLGT\_AXIS\_0010536, FLGT\_AXIS\_0005747 FLGT\_AXIS\_0005748, FLGT AXIS 00014877 FLGT AXIS 0014879, FLGT AXIS 0006642 FLGT AXIS 0006643, FLGT AXIS 0015740 FLGT AXIS 0015742, FLGT AXIS 0003073, FLGT AXIS 0015743 FLGT AXIS 0015745, FLGT AXIS 018533 FLGT AXIS 0018535, FLGT AXIS 0022559 FLGT AXIS\_0022561, FLGT AXIS\_0000028, FLGT AXIS 0000026 FLGT AXIS 0019682 FLGT\_AXIS\_0019684, FLGT AXIS 0000868 FLGT AXIS 0000870, FLGT AXIS 0018789 FLGT AXIS 0018791, FLGT AXIS 0009094 FLGT AXIS 0009096, FLGT AXIS 0018233 FLGT\_AXIS\_0018235, FLGT AXIS 0015487 FLGT AXIS 0015489, FLGT AXIS 0018017 DOJGRAYS 00032659 DOJGRAYS 00032672, FLGT AXIS 0018019, DOJGRAYS 00032682 DOJGRAYS 00032725 DOJGRAYS 00032766, DOJGRAYS 00032775 DOJGRAYS 00032719, DOJGRAYS 00053845 DOJGRAYS 00032802, DOJGRAYS 00053865, FLGT AXIS 0004693 FLGT\_AXIS\_0004694, FLGT\_AXIS\_005074 FLGT\_AXIS\_0005075, FLGT\_AXIS\_0006157 FLGT AXIS 0006160, FLGT AXIS 0006662 FLGT AXIS 0006665, FLGT AXIS 0012342 FLGT AXIS 0012345.

("CMS"), other contractors, and law enforcement agencies. Ms. Hull has a decade of experience working with Medicare contractors. In addition, she has experience analyzing claims for payment to Medicare. In the course of her years in this industry, Ms. Hull has become familiar with Medicare's coverage for laboratory services and has overseen fraud investigations for Medicare contractors. She is also familiar with analyzing voluminous claims data. She has testified about Medicare and Medicare coverage in approximately nine federal criminal trials throughout Louisiana and Texas. Her CV is attached hereto as **Attachment B.** 

In the last four years, Ms. Hull has testified in the following cases:

- November 2020, Beaumont, TX, No. 1:20-CR-33
- March 2022, Houston, TX, No. 4:17-cr-00197
- April 2022, Sherman, TX, No. 4:20-cr-358 ALM
- April 2022, Houston, TX, No. 4:19-cr-00633
- October 2022, Houston, TX, No. 4:20-cr-00619
- March 2023, Lafayette, LA, No. 6:21-cr-00312
- October 2023, New Orleans, LA, No. 2:21-cr-00098
- February 2024, Dallas, TX, No. 3:22-cr-00259-S
- February 2024, McAllen, TX, No. 7:22-cr-01311

Ms. Hull's opinions will be based on her knowledge, training, skill, and experience working with the Medicare program, including its rules and regulations, as well as her review and analysis of documents and claims data, which have been provided as discovery to the Defendant in this case.

The Government anticipates that Ms. Hull's testimony may cover the following topics and include the following opinions:

#### 1. Background on Medicare

- Ms. Hull will testify that Medicare is a federally funded program that provides below-cost health care benefits to people age 65 years or older, the blind, and the disabled. The Centers for Medicare & Medicaid Services ("CMS"), a unit of the Department of Health and Human Services ("HHS") is responsible for the administration of Medicare. Ms. Hull will explain that individuals who receive benefits under Medicare are referred to as Medicare "beneficiaries." Beneficiaries are eligible to receive a variety of services, including hospital and physician services ("Part B"). Part B covers outpatient physician services, such as office visits, minor surgical procedures, and laboratory services, when certain criteria are met.
- Ms. Hull will explain what a claim for payment from Medicare is, and what must be included to submit a claim for payment from Medicare, including the following: (1) the claim must pertain to a patient who was properly enrolled as

a Medicare beneficiary; (2) the healthcare provider who furnished the services to the patient must be licensed in the state in which they practice and be properly enrolled with Medicare; (3) the services claimed must have been actually provided as reported on the claim; (4) the services claimed must be medically necessary and eligible for reimbursement under any applicable rules, regulations, or policies; and (5) the claim must be properly reported and properly documented with a supporting medical record.

• Ms. Hull will testify to the claims adjudication process, including the time in which Medicare processes claims and the extent to which claims are, or are not, reviewed by Medicare. She will testify that it is a physical impossibility for every claim to be reviewed before it is paid by Medicare. Instead, Medicare relies on the provider's representation that claims are true and accurate.

#### 2. Medicare Enrollment and Form 855

- Ms. Hull will explain that "providers" include clinical laboratories, physicians, and other health care providers who provide services to beneficiaries. In order to bill Medicare, a provider must submit an enrollment application to Medicare. The enrollment application contains certification statements that the provider must agree to before enrolling with Medicare. Specifically, the certification statement sets forth, in part, that the provider agrees to abide by the Medicare laws, regulations, and program instructions, including the Federal Anti-Kickback Statute, and will not knowingly present or cause to be presented a false or fraudulent claim for payment by Medicare.
- Ms. Hull will explain the representations that providers make regarding their ownership and management structure.
- Ms. Hull will explain that Medicare providers receive a "provider number," which they use to file claims with, or "bill" Medicare to obtain reimbursement for services rendered to beneficiaries. When submitting claims to Medicare for reimbursement, providers certify that: (1) the contents of the forms are true, correct, and complete; (2) the forms are prepared in compliance with the laws and regulations governing Medicare; and (3) the services purportedly provided, as set forth in the claims, are medically necessary.
- Ms. Hull will discuss the Form 855s as well as other documentation submitted by the various clinical laboratories referenced in the Indictment, including representations contained within the forms as to providers' ownership, management, location(s), and promises made in those forms to comply with applicable rules and regulations and to not submit false claims.

#### 3. Medicare's Coverage for Laboratory Testing

- Ms. Hull will testify that this case implicates claims submitted to Medicare for laboratory services, namely, genetic testing, including cardiovascular genetic ("cardio") tests.
- Ms. Hull will explain Medicare's reimbursement policies with respect to such testing, and he will testify that Medicare reimburses for the test at rates varying from approximately a few hundred dollars to several thousand dollars for a panel of tests. Ms. Hull will explain that Medicare does not pay for every potential medical service, and instead, many services are expressly excluded from coverage.
- Ms. Hull will testify that as a condition of Medicare payment, a physician or other Medicare provider must certify that the services performed were medically necessary as required by Title 42, United States Code, Section 1395n(a)(2)(B).
- Ms. Hull will testify that Medicare generally does not pay for "screening" tests, unless specifically covered by statute, which the genetic tests billed in this case were not. Rather, lab testing must be "reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member." 42 U.S.C. § 1395y(a)(1)(A); see also 42 C.F.R. § 411.15(a)(1); 42 C.F.R. § 410.10(e).
- Ms. Hull will explain that laboratory tests must also be ordered by the physician who is treating the beneficiary, that is, the physician who furnishes a consultation or treats a beneficiary for a specific medical problem and who uses the results of the test in the management of the beneficiary's specific medical problem. Ms. Hull will testify that Medicare does not cover genetic tests that are not ordered by the beneficiary's treating physician because CMS has determined that tests not ordered by the physician treating the beneficiary are not reasonable and necessary. See 42 C.F.R. § 410.32(a).
- Certain screening tests are exempted from the general exclusion from coverage, such as routine mammography or colonoscopy exams (among other routine screening exams). Ms. Hull will contrast routine screening tests expressly covered under statute from genetic testing billed in this case, which is not generally eligible for reimbursement by Medicare on the basis that such testing is not reasonable and not necessary.
- Ms. Hull will discuss and explain that Medicare publishes guidance regarding what services it does and does not cover in a variety of publications, including National Coverage Determinations ("NCDs") and Local Coverage Determinations ("LCDs"). Ms. Hull will discuss the applicable NCDs and LCDs

published in the relevant Medicare Administrative Contractor ("MAC") geographic jurisdictions, during the charged conspiracy.

- Even if a genetic test satisfies the applicable statutory and regulatory requirements above, the test must also satisfy applicable LCD coverage limitations. Ms. Hull will discuss the LCDs issued by the MACs for the relevant Medicare jurisdictions and their respective limitations of coverage of specific genetic tests as well as billing trends associated with the publication and implementation of certain LCDs and NCDs.
- Ms. Hull will also explain Medicare's rules related to providers' record-keeping requirements and requirements related to documenting medical necessity in the patient record. Specifically, Ms. Hull will explain that Medicare requires ordering/referring physicians to document medical necessity and other coverage for genetic testing. Medicare regulations require health care providers enrolled with Medicare to maintain complete and accurate patient medical records reflecting the medical assessment and diagnoses of their patients, as well as records documenting actual treatment of the patients to whom services were provided and for whom claims for payment were submitted by the physician.

#### 4. Information Relied Upon By Ms. Hull

- To date, Ms. Hull has been provided the following records by the prosecution team to assist in her review, which have been provided to the defense in this case, in addition to publicly available statutes, regulations, and guidance, some of which is referenced herein:
  - Medicare enrollment records for the laboratories referenced in the Indictment in this case;
  - o The Indictment in this case; and
  - o Part B billing data for the laboratories referenced in the Indictment in this case and related to the Indictment in this case.

Ms. Hull may answer hypothetical questions drawn from the facts of this case regarding how Medicare coverage guidelines are applied in different scenarios. Further, Ms. Hull may summarize billing data in this case and testify regarding summaries under FRE 1006.

#### C. Marylee Robinson

The anticipated testimony of witness Marylee Robinson, CFA/CFE, Managing Director, Stout Risius Ross, Inc., described below, is not expert in nature, pursuant to FRE 701 and 702, but the government is providing you with notice out of abundance of caution and should the defendant wish to address this issue pretrial.

Ms. Robinson has experience providing fraud and forensic accounting services in white collar cases, including the analysis and summarization of government payor healthcare claims, as well as the summarization of bank account activity. Her CV is attached as **Attachment C**. Ms. Robinson will testify as a fact witness regarding her review and summary of voluminous evidence, including claims data, bank records, and search warrant evidence, including reports from American Health Screening and other related entities. Ms. Robinson will summarize the voluminous contents of admissible documents, all of which has been previously provided to you in discovery. Ms. Robinson may also testify to tracing methodologies utilized to identify the fraudulent proceeds alleged in the Indictment, including specifically in Counts 7-9.

Stout is being compensated by the United States for its time in consulting and testifying in this case at a rate of \$395/hour. In sending this notice regarding Ms. Robinson's anticipated testimony, the government does not contend or concede that it qualifies as expert testimony under Federal Rule of Evidence 702, 703, or 705, or that it implicates the disclosure requirements of Federal Rule of Criminal Procedure 16(a)(1)(G), Federal Rule of Evidence 702, or *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993).

Even if the anticipated testimony of Ms. Robinson is somehow deemed to be expert in nature (which the government does not believe it to be), the defense will not be at any disadvantage because the government is providing notice equivalent to that for expert testimony. See Federal Rule of Criminal Procedure 16(a)(1)(G) (requiring a written summary of any testimony that the government intends to use under FRE 702, 703, or 705, if requested by the defense). Further, the United States may choose not to attempt to elicit the testimony outlined in this Notice, but provides this information out of an abundance of caution in order to comply with the applicable rules.

\* \* \*

The United States provides further notice that this disclosure may be further supplemented to comply with Rule 16 or address issues that arise or new information that is provided in preparation for trial, including any additional opinions these witnesses may give.

Pursuant to Rule 16(b)(1)(C), please provide an initial written summary of any testimony that Defendant plans to use under Federal Rules of Evidence 702, 703, or 705 by November 22, 2024.

[Continued on the next page.]

Sincerely,

/s/ Brynn A. Schiess
BRYNN A. SCHIESS
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GARY WINTERS
Acting Assistant Chief
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#### UNIVERSITY OF PENNSYLVANIA - PERELMAN SCHOOL OF MEDICINE Curriculum Vitae

#### Rajat Deo, MD, MTR

Address: Hospital of the University of Pennsylvania- Pavilion

Cardiac Electrophysiology Program

One Convention Avenue

Level 2/City Side

Philadelphia, PA 19104 USA

Education:

1996 S.B. Massachusetts Institute of Technology (Biology)

University of Michigan Medical School (Internal Medicine) 2001 M.D. 2011 M.T.R. University of Pennsylvania, Perelman School of Medicine

(Masters of Science in Translational Research)

Postgraduate Training and Fellowship Appointments:

2001-2002 Intern, Internal Medicine, University of Texas Southwestern

Medical Center (Parkland Hospital)

Resident, Internal Medicine, University of Texas 2002-2004

Southwestern Medical Center (Parkland Hospital)

Fellow, Cardiovascular Disease, University of California, San 2004-2006

Francisco

Fellow, Cardiac Electrophysiology, Johns Hopkins Hospital 2006-2008

**Faculty Appointments:** 

2008-2009 Instructor, Medicine, University of Pennsylvania School of

Medicine

2009-2018 Assistant Professor of Medicine (Cardiovascular Medicine),

University of Pennsylvania School of Medicine

Associate Professor of Medicine (Cardiovascular Medicine), 2018-present

University of Pennsylvania School of Medicine

Hospital and/or Administrative Appointments:

2020-present Director, Penn Arrythmia Genetics Program, Penn Medicine

Other Appointments:

2013-2014 Team Cardiologist, Philadelphia 76ers, Member of National

Basketball Association

Cardiologist, Department of Athletics, Penn Medicine 2013-present

**Specialty Certification:** 

2004 American Board of Internal Medicine (Internal Medicine)

2007 American Board of Internal Medicine (Cardiovascular

Disease)

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Rajat Deo, MD, MTR				Page 2
2010		can Board of Interna ophysiology)	l Medicine (Clinica	ıl Cardiac
<u>Licensure:</u>				
2004	Califor	nia State Medical Li	icensure	
2007	Maryla	and State Medical Li	censure	
2008	Pennsy	lvania State Medica	l Licensure	
Awards, Honors and Mem	nbership in Honorary S	ocieties:		
1995		rd Scholar, Humani	•	IT
1995		d Hughes Research	-	
1996		chievement Recogn		
2002	Runner of Phys	r-up, Clinical Vignet sicians	te Presentation, Ar	nerican College
2004		ee, Outstanding Res		versity of Texas
2006	Finalis	t, Young Investigato	rs Award Competi	tion, American
2006	_	linical Research Loa		ram Award
2007		t, Northwestern Card		
2007	First pl	ace, American Asso YIA Competition		
2008		l Translational Scien	ntist Award/NIH sr	onsored K12
2008		oan Repayment Prog	-	
2009	Junior	Investigator Pilot Gr Ivania School of Me	ant Program Awar	
2009	McCab	be Research Award for Vivania School of Me	or Clinical Researc	h, University of
2009	Kynett Wome	-FOCUS Junior Fac n's Cardiovascular H	ulty Award for Res	
2011		of Medicine	11	
2011		of the American Co	٠.	/
2020		nding Reviewer for		57 A 1 /1
2021	Heart I	nd Douglas P. Zipes <i>Rhythm</i> )		
2023		S. Post, MD, Distin n Reserve Universit		ectureship, Case

### Memberships in Professional and Scientific Societies:

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2006-Present Heart Rhythm Society (Member)

2016-Present Kidney Disease Improving Global Outcome (KDIGO) Arrhythmia Working Group.

(Steering Committee Member)

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2018-Present Lancet Commission on Sudden Cardiac Death (international working group focused

on identifying key areas for SCD prevention and cardiac arrest treatment) (Steering

Committee Member)

National:

2004-Present American College of Cardiology (Fellow 2011-present)

2004-Present American Heart Association (Member)

2015-Present American Heart Association (Member)

2016-2020 NHLBI - Sudden Cardiac Death Prevention Working Group (Member)

2017-Present EMPA-KIDNEY (Steering Committee Member)

2019-Present American Heart Association Innovative Project Award (Review Committee)

2021-2022 Temporary Member, NIH Cancer, Heart and Sleep Epidemiology Study Section

2022-Present NIH Cardiovascular and Respiratory Diseases Study Section (Member)

2021-Present 2024 Heart Rhythm Society Expert Consensus Statement on Arrhythmias in the

Athlete (Writing committee member)

#### **Editorial Positions:**

<u>s:</u>	
2006-Present	Reviewer for American Journal of Cardiology
2007-Present	Reviewer for Hypertension
2009-Present	Reviewer for Circulation
2009-Present	Reviewer for <i>Heart Rhythm</i>
2009-Present	Reviewer for Journal of the American Society of Nephrology
2009-Present	Reviewer for Journal of Interventional Cardiac Electrophysiology
2009-Present	Reviewer for Journal of Cardiovascular Electrophysiology
2009-Present	Reviewer for American Heart Journal
2010-Present	Reviewer for Circulation: Cardiovascular Quality and Outcomes
2011-Present	Reviewer for Archives of Internal Medicine
2011-Present	Reviewer for Journal of the American College of Cardiology
2011-Present	Reviewer for Journal of the Renin Angiotensin Aldosterone System
2012-Present	Reviewer for Circulation Journal
2012-Present	Reviewer for Clinical Journal of the American Society of
	Nephrology
2012-Present	Reviewer for Journal of Translational Medicine
2013-Present	Reviewer for European Heart Journal
2014-Present	Reviewer for JAMA Internal Medicine
2014-Present	Reviewer for American Journal of Kidney Diseases
2014 B	

2014-Present Reviewer for *Heart* 

2015-Present Reviewer for Annals of Internal Medicine

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2016-Present	Reviewer for JAMA Cardiology
2016-Present	Reviewer for Journal of the American Medical Association
2018-Present	Reviewer for Annals of Internal Medicine
2020-Present	Editorial Board for Circulation
2020-Present	Editorial Board for Heart Rhythm O2
2024-Present	Reviewer for New England Journal of Medicine

# Academic and Institutional Committees: 2008-2010 Mem

Member, Institutional Review Board, University of Pennsylvania

Major Academic	and Clinical Tea	ching Responsibilities:
•	1994	Chairman, Tutorial Services, Undergraduate Biology Program,
		Massachusetts Institute of Technology
	2000-2001	Biochemistry Section Leader, first year medical students, University
		of Michigan Medical School
	2003-2004	Resident Instructor, Introduction to Clinical Medicine, second year
		medical students, University of Texas Southwestern Medical School
	2003-2004	Instructor, USMLE I preparatory course, University of Texas
		Southwestern Medical School
	2004-2006	Instructor (Cardiovascular), third and fourth year medical students,
		University of California, San Francisco School of Medicine
	2005	Clinical Instructor (small group), first year medical students,
		University of California, San Francisco School of Medicine
	2005	Small group clinical instructor to first year medical students,
	2007 2000	University of California, San Francisco School of Medicine
	2007-2008	Established and participate in weekly Electrophysiology Teaching
	2000	Conference, Johns Hopkins Hospital
	2008-present	Faculty for Electrophysiology Case Review Sessions
	2008-present	Faculty for Electrocardiogram Interpretation Sessions
	2008-present	Faculty Discussant for General Cardiology Journal Club Meetings Lecture to Penn School of Medicine Fourth Year Medical Students
	2011-present	"Sudden Cardiac Death in Heart Failure" for the Frontiers:
		Pathophysiological Basis of Heart Failure Therapy Course
	2012-2020	Lecture to Penn School of Engineering Students
	2012-2020	BE301 Signals & Systems; Topic "Electrocardiography"
	2019	"Role of Genetic Testing in Arrhythmic Disorders" Faculty for the
	2017	State-of-the-Art Arrhythmia Symposium, University of
		Pennsylvania, Philadelphia, PA
	2019	"Racial Differences in Sudden Cardiac Death" Faculty for
		International Ventricular Tachycardia Symposium, Philadelphia, PA
	2021	"Sudden Cardiac Death in HFpEF - Beyond EF" - Faculty for the
		UPENN HFpEF Symposium, Philadelphia, PA
	2021	"ECG Identification of Genetically Linked Arrhythmia Syndromes
		and VT/VF Risk." Josephson Keynote ECG Lecture, Faculty for the
		State-of-the Art Arrhythmia Symposium, University of
		Pennsylvania, Philadelphia, PA

Lectures by Invitation:	
Jun, 2002	"Megestrol Acetate-Induced Adrenal Insufficiency", American College of Physicians/American Society of Internal Medicine,
Oct, 2002	Regional Competition Clinical Vignette Competition, Dallas, TX "Pre-Treatment with Calcium Channel Blockers Improves Microcirculatory Function after Fibrinolytic Therapy", Pathways to Heart Failure poster presentation, University of Texas Southwestern
Oct, 2003	Cardiovascular Symposium "Correlating Plasma Levels of Monocyte Chemoattractant Protein-1 with Traditional Cardiovascular Risk Factors and Subclinical Atherosclerosis", Pathways to Heart Failure poster presentation,
Sep, 2004	University of Texas Southwestern Cardiovascular Symposium "Association between Plasma Levels of Monocyte Chemoattractant Protein-1 with Traditional Cardiovascular Risk Factors and Subclinical Atherosclerosis", American Heart Association (AHA)
Nov, 2007	Western States Affiliate, Young Investigators Forum, Palo Alto, CA "Risk Stratification for Sudden Cardiac Death," Lecture, Cardiac Electrophysiology Meeting, Cornell University Medical Center, New York, NY
Dec, 2007	"Kidney Dysfunction and Sudden Cardiac Death," Lecture, Cardiac Electrophysiology Morning Conference, University of Pennsylvania, Philadelphia, PA
Jan, 2008	"Noninvasive Predictors of Sudden Cardiac Death," Special Lecture, University of Michigan Medical School, Ann Arbor, MI
Jan, 2008	"Kidney Dysfunction and Sudden Cardiac Death," Cardiology Grand Rounds, University of Utah, Salt Lake City, UT
May, 2008	"The Role of ICD's in Patients with End Stage Renal Disease," Faculty for the Hearth Rhythm Society's Annual Scientific Sessions, San Francisco, CA
Sep, 2009	"Risk Stratification Post MI - Moving Beyond Low Ejection Fraction," Faculty for the State of the Art Arrhythmia Symposium, University of Pennsylvania, Philadelphia, PA
Apr, 2010	"Managed Care's Role of Stroke Prevention and Anticoagulation in Managing Atrial Fibrillation Patients," Invited speaker at Spring Managed Care Forum, Richmond, VA
Sep, 2010	"Risk Stratification for SCD in hypertrophic cardiomyopathy," Invited speaker at State of the Art Arrhythmia Symposium, University of Pennsylvania, Philadelphia, PA
Apr, 2011	Chair of "Sudden Cardiac Death Risk Stratification" Session, Faculty for American College of Cardiology's Scientific Sessions,
May, 2011	Atlanta, GA  "Risk Factor and Prediction Modeling for Sudden Cardiac Death,"  Invited Speaker at Cardiology Grand Rounds, University of
May, 2011	Pennsylvania, Philadelphia, PA Chair of "Novel Risk Factors for Sudden Cardiac Death", Faculty

	for Heart Rhythm Society's Annual Scientific Sessions, San
	Francisco, CA
May, 2011	Chair of "Identifying Arrhythmic Risk and Indications for ICD
<b>3</b> )	Therapy", Faculty for Heart Rhythm Society's Annual Scientific
	Sessions, San Francisco, CA
Sep, 2011	"Genetics for the Electrophysiologist," Invited Speaker at the State
~ · p, = · · · ·	of the Art Arrhythmia Symposium, University of Pennsylvania,
	Philadelphia, PA
May, 2012	"ECG Localization of the Site of orgin of Idiopathic PVC's and VT:
141ay, 2012	What Have We Learned?," Invited Speaker at the Heart Rhythm
	Society's Annual Scientific Sessions, Boston, MA
May, 2012	"Cardiac Arrhythmias in the Psychiatric Patient: What to Know and
141ay, 2012	How to Treat?," Invited speaker at the American Psychiatric
	Association's Annual Meeting, Philadelphia, PA
Nov, 2012	"Risk Stratification: Development of a Risk Score for Sudden
1101, 2012	Cardiac Death", Invited Speaker at the American Heart Association's
	Annual Scientific Sessions, Los Angeles, CA
May, 2013	"Sudden Cardiac Death, Arrhythmias and Potential Interventions in
141ay, 2015	Chronic Kidney Disease", Invited Keynote Lecture at the Danish
	Nephrology Society, Horsens, Denmark
May, 2013	Chair of "Predicting Arrhythmic Events: Novel Mechanisms and
141ay, 2015	Methods", Faculty for Heart Rhythm Society's Annual Scientific
	Sessions, Denver, CO
Sep, 2013	"Sudden Cardiac Death, Arrhythmias, and Potential Interventions in
5 <b>c</b> p, 2015	Chronic Kidney Disease", Invited Speaker at Cardiology Grand
	Rounds, Washington Hospital Center, Washington, DC
Nov, 2013	Chair and Faculty Discussant, "Epidemiology of Atrial Fibrillation
1101, 2013	and Sudden Death", Faculty for American Heart Association's
	Annual Scientific Sessions, Dallas, TX
Nov, 2013	Poster Moderator, "Epidemiology of Atrial Fibrillation and Sudden
1101, 2013	Cardiac Death", Faculty for American Heart Association's Annual
	Scientific Sessions, Dallas, TX
May, 2014	"Genetic Testing: Who needs it and what do I do with the results?"
Way, 2014	Invited Speaker at the Heart Rhythm Society's Annual Scientific
	Sessions, San Francisco, CA
May, 2014	Chair of "Identifying and Treating Arrhythmias in Kidney Disease,"
Way, 2014	Faculty for Heart Rhythm Society's Scientific Sessions, San
	Francisco, CA
Nov, 2014	Chair of "Novel Risk Ractors for Atrial Fibrillation," Faculty for
1101, 2014	American Heart Association's Scientific Sessions, Chicago, IL
Nov, 2014	Chair of "Nonsustained Ventricular Tachycardia: New Insights for
1101, 2014	Risk Stratification and Management", Faculty for American Heart
	Association's Annual Scientific Sessions, Chicago, IL
Nov, 2014	"Prevention and Management of Nonvalvular Atrial Fibrillation",
1101, 2017	Invited Speaker at American Heart Association's Annual Scientific
	Sessions, Chicago, IL
	bessions, Chicago, 11

May, 2015	"Clinical Triad: Anticoagulants Update - What the Internist Needs to
	Know,"American College of Physician's Internal Medicine Meeting,
	Boston, MA
Sep, 2015	"Influence of Renal Dysfunction on Arrhythmia Management,"
	Faculty for the State-of-the-Art Arrhythmia Symposium,
	University of Pennsylvania
Oct, 2015	"Electrophysiology for the General Cardiology Fellow: Things you
	need to know for the National Boards and Clinical Practice,"
	Faculty for the PENNSYLVANIA ACC Fellow-In-Training
	Educational Conference, Philadelphia, PA
Nov, 2015	Chair of "New epidemiology in old Atrial Fibrillation," American
	Heart Association's Annual Scientific Sessions, Orlando, FL
Feb, 2016	"Anticoagulation for Atrial Fibrillation: Real World Evidence for the
	Novel Oral Anticoagulants," Faculty for CADECI (Annual Congress
	of Interventional Cardiology), Guadalajara, Mexico
May, 2016	"Sudden Cardiac Death Prevention Working Group," NHLBI,
	Bethesda, MD
Oct, 2016	"Kidney Disease: Improving Global Outcomes (KDIGO) Chronic
	Kidney Disease and Arrhythmia Conference, Berlin, Germany
Mar, 2017	"Atrial Fibrillation: A Self-Assessment Session," American College
	of Cardiology's Annual Scientific Sessions, Washington DC
May, 2017	"Current Clinical Practice in the Context of Real World Data: State
	of the Art Strategies to Predict and Prevent Sudden Cardiac Death;"
	Heart Rhythm Society's Annual Scientific Sessions, Chicago, IL
Feb, 2018	Cardiology Grand Rounds "Arrhythmia Risk: A Population-Based
	Perspective," Montefiore Medical Center / Albert Einstein College
NI 2017	of Medicine, New York, NY
Nov, 2017	Moderator for "The Role of Genetics in Cardiac Arrest and
	Trauma," American Heart Association's Annual Scientific Sessions,
Mar. 2019	Anaheim, CA
Mar, 2018	"Atrial Fibrillation Self-Assessment Session," Faculty for American
May, 2018	College of Cardiology's Annual Scientific Sessions, Orlando, FL "Risk Stratification for Sudden Cardiac Death - is there anything
May, 2016	beyond EF?" Heart Rhythm Society's Annual Scientific Sessions,
	Boston, MA
May, 2018	"Risk Stratification for Sudden Cardiac Death - Is there anything
1 <b>11ay</b> , 2010	beyond EF?" Faculty for Heart Rhythm Society's Annual Scientific
	Sessions, Boston, MA
Sep, 2018	"What's New in Atrial Fibrillation Epidemiology?" Faculty for the
5 <b>6</b> p, 2010	State-of-the-Art Arrhythmia Symposium, University of
	Pennsylvania, Philadelphia, PA
Apr, 2019	Cardiology Grand Rounds, "Arrhythmia Risk: Perspectives from the
1 /	Intersection of Electrophysiology and Population Science," Temple
	Heart & Vascular Institute, Philadelphia, PA.
May, 2019	Lecture, "Racial Differences in Sudden Cardiac Death Risk" in the
-	Session: Sudden Cardiac Death Risk Assessment in the Population.

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	Faculty for Heart Rhythm Society's Annual Scientific Sessions, San Francisco, CA
May, 2019	Lecture, "Explaining Differences in SCD in Blacks and Whites" in the Session: Diversifying Arrhythmias. Faculty for Heart Rhythm
May, 2019	Society's Annual Scientific Sessions. San Francisco, CA Lecture, "Explaining Differences in SCD in Blacks and Whites," Faculty for Heart Rhythm Society's Annual Scientific Sessions, San
May, 2019	Francisco, CA Lecture, "Racial Differences in Sudden Cardiac Death Risk," Faculty for Heart Rhythm Society's Annual Scientific Sessions, San
Nov, 2019	Francisco, CA "Featured Science in Electrophysiology", Moderator and Discussant. American Heart Association's Annual Scientific Sessions,
Aug, 2020	Philadelphia, PA "New Risk Factors for SCD and How to Monitor these Patients?" Keynote Lecture for Indian Heart Rhythm Society, Virtual meeting
Jul, 2021	Lecture, "COVID-19 and Cardiac Arrhythmias: New Approaches to Managing Cardiac Arrhythmias." Faculty for Heart Rhythm
Jul, 2021	Society's Annual Scientific Sessions, Boston, MA Lecture, "NICM and ICDs: What we learned from the DANISH trial?" Faculty for Heart Rhythm Society's Annual Scientific Sessions, Boston, MA
Oct, 2022	Lecture, "COVID-19 and cardiac arrhythmias" Faculty for International Ventricular Tachycardia Symposium, New York
Mar, 2023	"Return-to-play for Elite Level Athletes with Sudden Cardiac Death Predisposing Genetic Heart Disease." Discussant at Late Breaking Clinical Trials, Faculty for American College of Cardiology's Annual Scientific Sessions, New Orleans, LA
May, 2023	Lecture, "Why are race and ethnicity important to consider for understanding SCD risk prediction?" Faculty for Heart Rhythm Society's Annual Scientific Sessions, New Orleans, LA
Apr, 2024	Moderator, "EP Questions in Population Science," Faculty for American College of Cardiology's Annual Scientific Sessions, Atlanta, GA

## Organizing Roles in Scientific Meetings:

	<del></del>
May, 2016	Steering Committee Member for NHLBI, Sudden Cardiac Death
	Prevention Working Group Meeting; Bethesda, MD
Oct, 2016	Steering Committee Member for Kidney Disease: Improving Global
	Outcomes (KDIGO) Chronic Kidney Disease and Arrhythmia
	Conference; Berlin, Germany
Oct, 2019	Steering Committee Member for Kidney Disease: Improving Global
	Outcomes (KDIGO) Chronic Kidney Disease and Cardiovascular
	Disease; Mexico City, Mexico
Nov, 2019	Steering Committee Member; Consensus Conference on Improving
	Cardiovascular Disease Care in Solid Organ Transplant Recipients;

#### Washington DC

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Research Publications, peer reviewed (print or other media):

- 1. Romero EE, **Deo R**, Velazquez-Estades LJ, Roth DA: Cloning, structural organization, and transcriptional activity of the rat vitamin K-dependent gamma-glutamyl carboxylase gene. <u>Biochem Biophys Res Commun</u> 248(3): 783-788, July 1998.
- 2. Romero EE, Velásquez-Estades IF, **Deo R**, Schapiro B, and Roth DA: Cloning of rat vitamin K-dependent gamma-glutamyl carboxylase and developmentally regulated gene expresión in implanted embryos. <u>Exp Cell Res</u> 243(2): 334-46, Sep 1998.
- 3. **Deo R**, Khera A, McGuire DK, Murphy SA, Meo Neto J, Morrow DA, de Lemos JA: Association among plasma levels of monocyte chemoattractant protein-1, traditional cardiovascular risk factors, and subclinical atherosclerosis. <u>J Am Coll Cardiol</u> 44(9): 1812-1818, Nov 2004.
- 4. **Deo R**, Wassel Fyr CL, Angleman S, Green C, Harris TB, Fried LF, Newman AB, Kritchevsky SB, Chertow GM, Cummings SR, Shlipak MG: Kidney dysfunction and fatal cardiovascular disease an association independent of atherosclerotic events: Results from the Health, Aging, and Body Composition (Health ABC) study. Am Heart J 155(1): 62-68, Jan 2008.
- Deo R, Lin F, Vittinghoff E, Tseng ZH, Hulley S, Shlipak MG: Kidney Dysfunction and Sudden Cardiac Death among Women with Coronary Heart Disease. <u>Hypertension</u> 51(6): 1578-1582, Jun 2008.
- 6. **Deo R**, Shlipak MG, Ix JH, Ali S, Schiller NB, Whooley MA: Association of Cystatin C with Ischemia in Patients with Coronary Heart Disease. <u>Clin Cardiol</u> 32(11): E18-22, Nov 2009. PMCID: PMC2818322
- Deo R, Katz R, Kestenbaum B, Fried L, Sarnak MJ, Psaty BM, Siscovick DS, Shilpak MG: Impaired kidney function and atrial fibrillation in elderly subjects. <u>J Card</u> <u>Fail</u> 16(1): 55-60, Jan 2010. PMCID: PMC2818049
- 8. **Deo R**, Sotoodehnia N, Katz R, Sarnak M, Fried LF, Chonchol M, Kestenbaum B, Psaty B, Siscovick D, Shilpak MG: Cystain C and Sudden Cardiac Death Risk in the Elderly. <u>Circ Cardiovasc Qual Outcomes</u> 3(2): 159-164, Mar 2010. PMCID: PMC2871673
- 9. Hennessy S, Leonard CE, Freeman CP, **Deo R**, Newcomb C, Kimmel SE, Strom BL, Bilker WB: Validation of diagnostic codes for outpatient-originating sudden cardiac death and ventricular arrhythmia in Medicaid and Medicare claims data. Pharmacoepidemiol Drug Saf 19(6): 555-562, Jun 2010. PMCID: PMC2924585

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- 10. Marcus GM, Alonson A, Peralta CA, Lettre G, Vittinghoff E, Lubitz SA, Fox ER, Levitzky YS, Mehra R, Kerr KF, Deo R, Sotoodehnia N, Akylbekova M, Ellinor PT, Paltoo DN, Soliman EZ, Benjamin EJ, Heckbert SR: European ancestry as a risk factor for atrial fibrillation in African Americans. <u>Circulation</u> 122(20): 2009-2015, Nov 2010. PMCID: PMC3058884
- 11. Smith JG, Magnani JW, Palmer C, Meng YA, Soliman EZ, Musani SK, Kerr KF, Schnabel RB, Lubitz SA, Sotoodehnia N, Redline S, Pfeufer A, Müller M, Evans DS, Nalls MA, Liu Y, Newman AB, Zonderman AB, Evans MK, **Deo R**, Ellinor PT, Paltoo DN, Newton-Cheh C, Benjamin EJ, Mehra R, Alonso A, Heckbert SR, Fox ER.: Genome-wide association studies of the PR interval in African Americans. <u>PLoS Genet</u> 7(2): e1001304. doi: 10.1371/journal.pgen.1001304, Feb 2011. PMCID: PMC3037415
- 12. Anter E, Hutchinson MD, **Deo R**, Haqqani HM, Callans DJ, Gerstenfeld EP, Garcia F, Bala R, Lin D, Riley MP, Litt H, Woo JY, Acker MA, Szeto WY, Zado ES, Marchlinski FE, Dixit S: Surgical Ablation of Refractory Ventricular Tachycardia in Patients with Nonischemic Cardiomyopathy. <u>Circ Arrhythm Electrophysiol</u> 4(4): 494-500, Aug 2011.
- 13. Bala R, Ren JF, Hutchinson MD, Desjardins B, Tschabrunn C, Gerstenfeld EP, **Deo** R, Dixit S, Garcia FC, Cooper J, Lin D, Riley MP, Tzou WS, Verdino R, Epstein AE, Callans DJ, Marchlinski FE: Assessing Epicardial Substrate Using Intracardiac Echocardiography During VT Ablation. <u>Circ Arrhythm</u> <u>Electrophysiol</u> 4(5): 667-673, Oct 2011. PMCID: PMC3220997
- 14. **Deo R**, Vittininghoff E, Lin F, Tseng ZH, Hulley SB, Shlipak MG: Risk Factor and Prediction Modeling for Sudden Cardiac Death in Women with Coronary Artery Disease Arch Intern Med 171(19): 1703-1709, Oct 2011. PMCID: PMC3547327
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- 16. **Deo R**, Shlipak MG, Katz R, Sotoodehnia N, Psaty BM, Sarnak MJ, Fried LF, Chonchol M, deBoer I, Enquobahrie D, Siscovick D, Kestenbaum B: Vitamin D, Parathyroid Hormone, and Sudden Cardiac Death: the Cardiovascular Health Study. <u>Hypertension</u> 58(6): 1021-1028, Dec 2011. PMCID: PMC3337033
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- 23. Moss JD, Gerstenfeld EP, Deo R, Hutchinson MD, Callans DJ, Marchlinski FE, Dixit S: ECG criteria for accurate localization of left anterolateral and posterolateral accessory pathways. Pacing Clin Electrophysiol 35(12): 1444-1450, Dec 2012.
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## Research Publications, peer-reviewed reviews:

- 1. **Deo R**, de Lemos JA: B-type natriuretic peptide in ischemic heart disease. <u>Curr Cardiol Rep</u> 5(4): 271-277, Jul 2003.
- 2. **Deo R**, Berger R: The clinical utility of entrainment pacing. <u>J Cardiovasc</u> Electrophysiol 20(4): 466-470, Apr 2009.
- 3. Mountantonakis S, **Deo R**: Biomarkers in Atrial Fibrillation, Ventricular Arrythmias, and Sudden Cardiac Death. <u>Cardiovasc Ther</u> 30(2): e74-80, Apr 2012.

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- 5. Pathak RK, Sanders P, **Deo R**: Primary prevention implantable cardioverterdefibrillator and opportunities for sudden cardiac death risk assessment in nonischaemic cardiomyopathy. Eur Heart J 39(31): 2859-2866, Aug 2018. PMCID: PMC6100755
- 6. Siripanthong B, Nazarian S, Muser D, **Deo R**, Santangeli P, Khanji MY, Cooper LT Jr, Chahal CAA.: Recognizing COVID-19-related myocarditis: The possible pathophysiology and proposed guideline for diagnosis and management. Heart Rhythm 17(9): 1463-1471, Sep 2020. PMCID: PMC7199677
- 7. Pothineni NVK, Santangeli P, Deo R, Marchlinski FE, Hyman MC: COVID-19 and electrophysiology procedures - review, reset, reboot!!! <u>J Interv Card</u> Electrophysiol 59(2): 303-305, Nov 2020.

### Editorials, Reviews, Chapters, including participation in committee reports:

- 1. Deo R, Cannon CP, de Lemos JA: ST Segment Elevation Myocardial Infarction. Essential Cardiology, Principles and Practices. Humana Press, 2nd edition: 489-520, Dec 2005.
- 2. Goldschlager NF, **Deo R**: Update on Pharmacologic Strategies for Atrial Fibrillation: Rate, Rhythm, and Beyond. John Hopkins Advanced Studies in Medicine 6(5): 213-223, May 2006.
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- 6. Obeng-Gyimah EK, **Deo R**: Cardiorenal Resynchronization Therapy: Strengthening the Heart and Kidneys. Clin J Am Soc Nephrol 10(10): 1705-1707, Sep 2015. PMCID: PMC4594077

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- 13. Turakhia MP, Blankestijn PJ, Carrero J, Clase CM, **Deo R**, Herzog CA, Kasner SE, Passman RS, Pecoits-Filho R, Reinecke H, Shroff GR, Zareba W, Cheung M, Wheeler DC, Winkelmayer WC, Wanner C: Chronic kidney disease and arrhythmias: conclusions from a Kidney Disease: Improving Global Outcomes (KDIGO) Controversies Conference. <u>Eur Heart J</u> 39(24): 2314-2325, Jun 2018. PMCID: PMC6012907
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- 17. Pothineni NVK, **Deo R**.: Screening for Atrial Fibrillation: Closing the "LOOP" <u>Circulation</u> 141: 1523-1526, May 2020.
- 18. Ganz P, **Deo R**, Dubin RF.: Proteomics for personalized cardiovascular risk assessment: in pursuit of the Holy Grail. <u>Eur Heart J</u> 41: 4008-4010, Nov 2020. PMCID: PMC7672528
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- 21. Hyman MC, **Deo R**: Sudden Cardiac Death: In Search of a New Standard. <u>JACC Clin Electrophysiol</u> 9(3): 414-415, Mar 2023.
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- 23. Petzl AM, **Deo R**.: Left Atrial Cardiomyopathy: A Puzzling Disease Process Short of an Easy Answer. <u>J Am Heart Assoc</u> 13(7): e034268, Apr 2024. PMCID: PMC11179779
- 24. Lampert R, Chung EH, Ackerman MJ, Arroyo AR, Darden D, **Deo R**, Dolan J, Etheridge SP, Gray BR, Harmon KG, James CA, Kim JH, Krahn AD, La Gerche A, Link MS, MacIntyre C, Mont L, Salerno JC, Shah MJ.: 2024 HRS expert consensus statement on arrhythmias in the athlete: Evaluation, treatment, and return to play. Heart Rhythm May 2024 Notes: Online ahead of print.
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Contributions to peer-reviewed research publications, participation cited but not by authorship:

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- 2. Schrauben SJ, Shou H, Zhang X, Anderson AH, Bonventre JV, Chen J, Coca S, Furth SL, Greenberg JH, Gutierrez OM, Ix JH, Lash JP, Parikh CR, Rebholz CM, Sabbisetti V, Sarnak MJ, Shlipak MG, Waikar SS, Kimmel PL, Vasan RS, Feldman HI, Schelling JR; CKD Biomarkers Consortium and the Chronic Renal Insufficiency Cohort (CRIC) Study Investigators.: Association of Multiple Plasma Biomarker Concentrations with Progression of Prevalent Diabetic Kidney Disease: Findings from the Chronic Renal Insufficiency Cohort (CRIC) Study. J Am Soc Nephrol. (eds.). 32(1): 115-126, Jan 2021. PMCID: PMC7894671
- 3. Bernstein RA, Kamel H, Granger CB, Piccini JP, Sethi PP, Katz JM, Vives CA, Ziegler PD, Franco NC, Schwamm LH; STROKE-AF Investigators: Effect of Long-term Continuous Cardiac Monitoring vs Usual Care on Detection of Atrial Fibrillation in Patients With Stroke Attributed to Large- or Small-Vessel Disease: The STROKE-AF Randomized Clinical Trial. JAMA 325: 2169-2177, Jun 2021. PMCID: PMC8170544
- 4. Denburg MR, Xu Y, Abraham AG, Coresh J, Chen J, Grams ME, Feldman HI, Kimmel PL, Rebholz CM, Rhee EP, Vasan RS, Warady BA, Furth SL; CKD Biomarkers Consortium.: Metabolite Biomarkers of CKD Progression in Children. Clin J Am Soc Nephrol 16(8): 1178-1189, Aug 2021. PMCID: PMC8455058
- 5. Greenberg JH, Abraham AG, Xu Y, Schelling JR, Feldman HI, Sabbisetti VS, Ix JH, Jogalekar MP, Coca S, Waikar SS, Shlipak MG, Warady BA, Vasan RS, Kimmel PL, Bonventre JV, Denburg M, Parikh CR, Furth S; CKD Biomarkers Consortium; CKD Biomarker consortium.: Urine Biomarkers of Kidney Tubule Health, Injury, and Inflammation are Associated with Progression of CKD in Children. J Am Soc Nephrol 16(8): 1178-1189, Aug 2021. PMCID: PMC8722795
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- 7. Sapa H, Gutiérrez OM, Shlipak MG, Katz R, Ix JH, Sarnak MJ, Cushman M, Rhee EP, Kimmel PL, Vasan RS, Schrauben SJ, Feldman HI, Seegmiller JC, Brunengraber H, Hostetter TH, Schelling JR; CKD Biomarkers Consortium.: Association of Uremic Solutes With Cardiovascular Death in Diabetic Kidney Disease. Am J Kidney Dis. (eds.). 80(4): 502-512, Oct 2022. PMCID: PMC9554797

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8. Schwamm LH, Kamel H, Granger CB, Piccini JP, Katz JM, Sethi PP, Sidorov EV, Kasner SE, Silverman SB, Merriam TT, Franco N, Ziegler PD, Bernstein RA; STROKE AF Investigators.: Predictors of Atrial Fibrillation in Patients With Stroke Attributed to Large- or Small-Vessel Disease: A Prespecified Secondary Analysis of the STROKE AF Randomized Clinical Trial. <u>JAMA Neurol</u> 80(1): 99-103, Jan 2023. PMCID: PMC9664367

- Bernstein RA, Kamel H, Granger CB, Piccini JP, Katz JM, Sethi PP, Pouliot E, Franco N, Ziegler PD, Schwamm LH; STROKE AF Investigators.: Atrial Fibrillation In Patients With Stroke Attributed to Large- or Small-Vessel Disease: 3-Year Results From the STROKE AF Randomized Clinical Trial. <u>JAMA Neurol</u> 80: 1277-1283, Dec 2023. PMCID: PMC10616765
- 10. Mayne KJ, Staplin N, Keane DF, Wanner C, Brenner S, Cejka V, Stegbauer J, Judge PK, Preiss D, Emberson J, Trinca D, Dayanandan R, Lee R, Nolan J, Omata A, Green JB, Cherney DZI, Hooi LS, Pontremoli R, Tuttle KR, Lees JS, Mark PB, Davies SJ, Hauske SJ, Steubl D, Brückmann M, Landray MJ, Baigent C, Haynes R, Herrington WG; EMPA-KIDNEY Collaborative Group.: Effects of Empagliflozin on Fluid Overload, Weight, and Blood Pressure in CKD. J Am Soc Nephrol 35(2): 202-215, Feb 2024. PMCID: PMC7615589

### Alternative Media:

1. Rajat Deo: Sudden Cardiac Death in Postmenopausal Women. <u>Cardiac Rhythm</u> Newshttp://www.cxvascular.com/crn-videos/cardiac-rhythm-news Aug 2011.

#### PLEASE SEE NEXT PAGE FOR ALL GRANT SUPPORT

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#### **GRANT SUPPORT**

## **CURRENT GRANT SUPPORT:**

#### **D24 AC00253-00** (PI – Alur; **Clinical PI – Deo**)

08/30/24 - 08/29/28

ARPA-H: Safe and Explainable AI enabled Decision Making for Personalized Clinical Decision Support

Our overall goal is to develop algorithms for training of neurosymbolic models. We are evaluating inpatient cardiac telemetry data (raw, digital tracings) to predict ventricular arrhythmias and inhospital cardiac arrest.

**R01 HL159081 (Multiple PI – Rajat Deo** / Ruth Dubin / Peter Ganz) 07/02/21 – 07/01/25

NIH/NHLBI: Proteomics of Cardiovascular Risk: The Multiethnic Study of Atherosclerosis

Our overall goal is to evaluate novel protein biomarkers for subclinical cardiovascular disease. We will develop prediction models and utilize pathway analyses to understand subclinical cardiovascular disease and its progression across the longitudinal imaging obtained in MESA.

## R01 HL161303 (Multiple PI - Rajat Deo/ Wei Yang/ Wen Guo)

04/01/22 -- 03/31/26

NIH/NHLBI: Dynamic Longitudinal Functional Models with Applications to the CRIC Study

The goals of this project are to develop novel dynamic longitudinal functional models and to apply them to electrocardiographic data that are measured repeatedly over time in the Chronic Renal Insufficiency Cohort. We are validating our discovery using an external cohort of CKD patients collected from Penn Medicine.

## R01 MH130435 (Role: co-Investigator)

09/01/22 - 08/31/25

NIH/NIMH: Drug Interactions Involving Second-generation Antipsychotic Agents Leading to Sudden Cardiac Arrest

The goals of this project are to 1) Perform high-throughput pharmacoepidemiology screening to identify drugs that may increase the rate of out-of-hospital SCA/VA in persons taking commonly used second generation antipsychotic agents and 2) In two independent validation populations, conduct hypothesis-driven etiologic pharmacoepidemiology studies to either confirm or refute high-priority potential drug interactions identified in Aim 1, and to elucidate factors that place patients at increased risk of out-of-hospital SCA/VA associated with specific drug pairs.

#### R01 HL169458 (Role: co-Investigator)

07/01/23 - 06/30/28

NIH/NHLBI: *Methods for Enhancing Polygenic Risk Prediction Models for Complex Disease* This project is designed to develop novel methods for polygenic scores with applications in cardiovascular disease.

#### **PAST GRANT SUPPORT:**

**U01 DK108809 (Multiple PI – Rajat Deo / Ruth Dubin / Peter Ganz)**08/01/16 - 07/31/24

NIH/NIDDK: Identifying Modifiable Biomarkers / Mediators for Cardiovascular Disease in CKD

In this project, we leveraged large-scale proteomics (SOMAscan, SomaLogic, Boulder, CO) to identify novel protein biomarkers of cardiovascular disease in participants from the Chronic Renal Insufficiency Cohort Study.

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<u>Ambulatory Monitoring Study post COVID-19 (PI – Rajat Deo)</u> 12/01/20 – 12/31/22 Cardiac Arrhythmia Extended monitoring among high-risk COVID-19 survivors (CARE-COVID) Sponsor: iRhythm Technologies, Inc.

The objectives of the study were to determine prevalence and burden of cardiac arrhythmias among COVID-19 survivors, who were hospitalized in the ICU or had evidence of cardiac injury.

#### U01 Al034989 (Role: co-Investigator)

01/01/19 - 12/31/19

NIH/NIAID: Electrocardiographic feature extraction in the Women's HIV Study

The overall objective of this project was to develop novel statistical methods for analyzing electrocardiogram (ECG) data that are measured at baseline in the Women's Interagency HIV Study (WIHS) cohort. Functional ECG features that are associated with cardiac structure and function, neurocognition, and HIV infection status were characterized.

### **K23 DK089118 (PI – Rajat Deo)**

07/01/10 - 08/30/15

NIH/NIDDK: Renin-Angiotensin-Aldosterone System and Cardiac Arrhythmias in People with Chronic Kidney Disease

This is an ancillary study to the Chronic Renal Insufficiency Cohort (CRIC) that evaluated the role of the renin-angiotensin-aldosterone system in atrial fibrillation and fatal cardiovascular disease among people with chronic kidney disease. The study evaluated baseline aldosterone with markers of conduction disease with various arrhythmic endpoints. As part of the study, the PI led the adjudication of atrial fibrillation and sudden cardiac death in the CRIC study.

McCabe Fund Pilot Award, Univ. of Pennsylvania (PI - Rajat Deo) 07/01/09 to 06/30/11

Genetic Polymorphisms in the Renin-Angiotension-Aldosterone System and Cardiac Arrhythmias

Goals: To better understand the role of the renin-angiotension-aldosterone system (RAAS) in cardiac arrhythmias including sudden cardiac death and atrial fibrillation among a cohort of participants with chronic kidney disease (CKD).

<u>Junior Investigator Pilot Grant</u>, Univ. of Pennsylvania (PI – Rajat Deo) 07/01/09 to 06/30/11 Renin-Angiotension-Aldosterone System and Cardiac Arrhythmias

Goals: To evaluate whether renin and aldosterone levels are associated with atrial fibrillation and sudden cardiac death among patients in the Penn Medicine Biobank.

<u>Kynett-FOCUS Junior Faculty Investigator Award (PI - Rajat Deo)</u> 10/01/09 to 09/30/10 University of Pennsylvania

A Comparison of Risk Factors for Cardiovascular Death and Sudden Cardiac Death Using a Competing Risk Analysis in Women

Goals: To compare risk factors for sudden cardiac death to those of non-sudden cardiovascular death among women enrolled in the Hormone and Estrogen Replacement Study.

### KL2-RR024132 (Role - Scholar)

07/01/08 to 06/30/10

NIH/NCRR: Institutional Clinical and Translational Science Award (CTSA)

The ojectives of this institutional training award are to develop interdisciplinary structures designed to foster and facilitate research and education.



# Shauna Hull, BSN, RN, CPC

**Qlarant Job Title:** Project Manager I

#### **EDUCATION**

Bachelor of Science-Nursing, University of Central Oklahoma, Edmond, OK, 2005

### **Summary:**

Completes desk review or field audits to meet applicable contract requirements and to identify evidence of potential overpayment or fraud. Completes inquiry letters, investigation finding letters and case summaries. Investigates and refers all potential fraud leads to the investigators/auditors. Collaborates with law enforcement and conduct medical reviews along with testifying in trials as needed. Participates in internal and external focus groups and other projects, as required. Identifies opportunities to improve processes and procedures. Mentor and provide guidance to junior and level one analysts. Performs a variety of tasks some requiring independent thought and research. Seasoned registered nurse with 19+ years' healthcare experience.

### **Experience**

May 2017 - Present

**Qlarant (formerly Health Integrity), Dallas, TX** 

Project Manager I Claims Analyst Lead Claims Analyst II

• See summary

**July 2015 – May 2017** 

Professional Healthcare Solutions, Yukon, OK

Medical Review

- Medical record and claims review for Medicare and Medicaid fraud, waste and abuse.
- Investigated and referred all potential fraud leads to the investigators/auditors.
- Mentor and provide guidance to junior and new medical reviewers.

### **February 2014 – June 2015**

Option One, Oklahoma City, OK

Lead Infusion Nurse

 Managed infusion suites in office, performed infusions within patient's homes and coordinated home nursing visits to include ensuring all state laws and regulations were followed.

## **January 2008 – May 2014**

Oklahoma Heart Hospital, Oklahoma City, OK

Registered Nurse, Post Coronary Care Unit

• Direct bedside care for telemetry patients to include pre and post-catherization and pre and post-surgical patients for 60 bed unit. Coordinated care with physician and medical team to ensure that patients had positive outcomes.

September 2007 – January 2008

Loving Care Home Health; Yukon, OK



Registered Nurse, Home Health/Hospice

 Managed caseload of 15-20 patients to provide education, treatment, education, continuing support of intravenous therapy, venipuncture, transport of labwork and wound care of all types. Developed patient care plans. Hospice care provided on occasion. Coordinated with other agencies for services outside of the scope of practice of the company.

## **April 2006 – August 2007**

Oklahoma Heart Hospital, Oklahoma City, OK

Registered Nurse, Post Coronary Care Unit

Refer to job description above.

#### June 2005 - March 2006

VA Medical Center; Oklahoma City, OK

Registered Nurse, Surgical/Telemetry unit

• Direct bedside care for med-surgical/telemetry patients for 30 bed unit. Charge nurse on occasion for unit. Coordinated with physician and medical team to ensure that patients had positive outcomes.

# October 1998 – June 2005

University of Central Oklahoma, Edmond, OK

College

• Attending college with graduation in May 2005 with a Bachelor of Science in Nursing.

## **January 1993 – October 1998**

**United States Air Force** 

Security Police, Law Enforcement

 Performed, supervised and led security police activities including weapon system, resource security, antiterrorism, law enforcement/investigations, air base defense, armament and equipment, training, pass and registration, information security and combat arms.

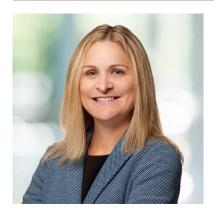
### Special Skills, Professional Certifications, and Affiliations

Certifications/Licenses: Compact license-Registered Nurse, Oklahoma

Certified Professional Coder

**Managing Director** 





Baltimore, MD USA Office: +1.410.775.4073 Mobile: +1.410.340.6496 mrobinson@stout.com

#### Education

M.B.A., Accounting Loyola University Maryland B.S., Finance University of Maryland, College Park

#### **Designations**

Certified Public Accountant (CPA) Certified in Financial Forensics (CFF) Certified Fraud Examiner (CFE)

#### **Practice Areas**

Complex Business Litigation Intellectual Property Disputes Investigations

#### **Industry Focus**

Consumer, Retail, Food & Beverage Financials Healthcare & Life Sciences Technology, Media & Telecommunications Marylee Robinson specializes in providing expert testimony and litigation consulting services, including determinations of damages in commercial litigation matters and conducting fraud and forensic accounting investigations.

Ms. Robinson has over 20 years of experience preparing damages opinions in significant intellectual property infringement and breach of contract matters. These matters have included preparing lost profits, disgorgement of profits, price erosion and reasonable royalty damage opinions involving design and utility patents, trademarks, trade dress, and copyrights. Her experience in these matters has covered such industries as pharmaceuticals, software, and most recently consumer electronic devices, including smartphones and tablets.

Ms. Robinson also has extensive experience providing fraud and forensic accounting services in white collar crime cases with an emphasis on matters involving the analysis of voluminous documents and data. Her fraud and forensic accounting experience includes assistance to the Department of Justice in a series of investigations of corporate executives indicted for white collar crimes in both the banking and healthcare industries. Ms. Robinson is frequently involved in the analysis and summarization of government payor healthcare claims as well as the summarization of the bank account activity of potential targets and/or defendants. Such analysis has been used to support money laundering and wire count charges in federal court as well as to assist in sentencing and forfeiture efforts.

Further, Ms. Robinson has been retained as an expert in multiple matters and has provided testimony in federal court.

#### **Professional Memberships**

- American Bar Association, Section of Litigation
- American Institute of Certified Public Accountants
- Association of Certified Fraud Examiners
- International Women's Insolvency & Restructuring Confederation (IWIRC), Greater Maryland
- Maryland Association of Certified Public Accountants

**Managing Director** 



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## Testimony, Expert Reports, and Declaration Experience:

Trial Testimony in re: <u>United States of America</u> v. Daniel M. Carver, et al (Case No. 9:22-CR-80022), October 2, 2023.

Trial Testimony in re: <u>United States of America</u> v. Ron K. Elfenbein, (Case No. 1:22-CR-00146), July 27, 2023.

Trial Testimony in re: <u>United States of America</u> v. Gilbert R. Ghearing (Case No. 2:19-CR-00010), March 3, 2023.

Trial Testimony in re: <u>United States of America</u> v. Steven J. Valentino, et al. (Case No. 2:20-CR-00309-BMS), September 19-20, 2022.

Expert Report in re: First Home Mortgage Corporation v. <u>Michael J. Farrell, et al</u> (Case No. C-03-CV-19-000145), July 30, 2021.

Trial Testimony in re: <u>United States of America</u> v. Richard Ayazyan, et al. (Case No. 2:20-CR-00579-SVW), June 16-17, 2021 and June 28, 2021.

Expert Report in re: United States of America v. Ashish Sawhney (Case No. 1:20-CR-00192-AGT), May 18, 2021.

Deposition in re: Brightview Group, LP v. Andrew M. Teeters, et al. (Case No. SAG-19-2774), September 8, 2020.

Rebuttal Expert Report in re: <u>Brightview Group, LP</u> v. Andrew M. Teeters, et al. (Case No. SAG-19-2774), August 31, 2020.

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Rebuttal Expert Report in re: Hasbro, Inc. v. <u>DC Comics and Warner Bros Entertainment Inc</u>. (Case No. 1:17-cv-6558-LGS), July 19, 2018.

Declaration In Support of Apple's Motion Regarding Ongoing Royalties in re: <u>Apple Inc</u>. v. Samsung Electronics Co. LTD, et al. (Case 5:12-cv-00630-LHK), November 13, 2017.

Trial Testimony in re: Alzheimer's Foundation et al. v. <u>Alzheimer's Disease and Related Disorders Association</u>, <u>Inc. et al</u>. (Case No. 10-cv-3314), September 1, 2017.

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Rebuttal Expert Report in re: Thousand Oaks Barrel Co., LLC v <u>Deep South Barrels</u> (Case No. 1:16-cv-01035), August 30, 2017.

Deposition in re: Thousand Oaks Barrel Co., LLC v <u>American Oak Barrel, Derek Noyes, Sr., and Kyeta King</u> (Case No. 1:16-cv-01334), April 12, 2017.

Expert Report in re: Thousand Oaks Barrel Co., LLC v <u>American Oak Barrel, Derek Noyes, Sr., and Kyeta King</u> (Case No. 1:16-cv-01334), March 2, 2017.

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Declaration Regarding Supplemental Damages in re: <u>Apple Inc</u>. v. Samsung Electronics Co. LTD, et al. (Case 5:12-cv-00630-LHK), June 6, 2014.

Declaration in Support of Apple Inc.'s Post-Trial Motion for JMOL, Supplemental Damages, and Prejudgment Interest in re: <u>Apple Inc.</u> v. Samsung Electronics Co. LTD, et al. (Case5:11-cv-01846-LHK), December 13, 2013.

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Declaration in Support of Apple's Opposition to Samsung's Administrative Motion for Relief from April 23, 2013 Case Management Order in re: <u>Apple Inc</u>. v. Samsung Electronics Co. LTD, et al. (Case5:11-cv-01846-LHK), July 3, 2013.

Reply Declaration in Support of Apple's Motions for a Permanent Injunction, for Damages Enhancement, for Supplemental Damages and for Prejudgment Interest; and Judgment as a Matter of Law (Renewed), New Trial, and Amended Judgment Order in re: <u>Apple Inc</u>. v. Samsung Electronics Co. LTD, et al. (Case5:11-cv-01846-LHK), November 9, 2012.

Deposition in re: <u>Apple Inc</u>. v. Samsung Electronics Co. LTD, et al. (Case5:11-cv-01846-LHK), November 5, 2012.

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Expert Report in re: <u>Taylor</u> v. Hernandez-Diaz (Case No. 347957), Montgomery County Circuit Court, MD, January 13, 2012.

#### **Publications**

"Money laundering: The infiltration of the opioid epidemic into financial institutions," AICPA FLS Fraud Task Force: Eye on Fraud, Summer 2020, Issue 3.

"Red Flags Associated with Personal Bankruptcies Disclosures," The Baltimore Barrister, Volume 8, Number 3, Spring 2019.

"A Taxonomy of Tracing Rules: One Size Does Not Fit All," American Bankruptcy Institute Journal, Volume XXXVII, No. 9, September 2018.

"Trade Secret Damages: A Look at Available Remedies," The SRR Journal, Fall 2016.

"Lost Profits Involving Head-to-Head Competitors," American Bar Association Section of Litigation Expert Witnesses Newsletter, July 26, 2016.

"Akamai Technologies, Inc. v Limelight Networks, Inc.: Federal Circuit Weighs in on a Lost Profits Opinion Involving Head-to-Head Competitors," The SRR Journal, Spring 2016.

"IP Thought Leader Interview: A Discussion with AIPLA Executive Director Lisa Jorgenson", The SRR Journal, Fall 2015.

"The Value of a Girl Scout Cookie Name," Litigation Perspectives, Fall 2013.

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"A Step in the Right Direction for SEP Litigation," Corporate Counsel, April 2013.

"IP Licensing and Anti-kickback Considerations for Life Science Companies," Litigation Perspectives, Fall 2011.

"Patent Litigation Damages: Apportionment Yes, But How?" Litigation Perspectives, Spring 2011.

"Causation: A Driving Force to Lost Profit Damages," Expert Witnesses 2010 Annual Review (from the ABA Section of Litigation Expert Witnesses Committee), 2010.

"Damage limitations," World Trademark Review, December/January 2010.

#### **Speeches and Seminars**

"Criminal Case on COVID Relief Fund: What Led to Prosecution of \$20M PPP Fraud," presented at BSA Experience Conference, August 22, 2022.

"Asset Tracing: Follow The Money," presented at the Forensic Accounting and Asset Forfeiture/Asset Protection Conference, Florida Atlantic University and United States Treasury, May 5, 2022.

"Financial Tracing: From Investigation to Trial," presented to U.S Attorney's Office, Southern District of Florida, September 2020.

"A Taxonomy of Tracing Rules: One Size Does Not Fit All," presented at the ACFE Global Fraud Conference, June 25, 2019.

"The Nuts & Bolts of IP Damages," MACPA Forensic Valuation Conference, April 2016.

"Hot Topics in IP Damages in Canada and the United States," AICPA Forensic and Valuation Services Conference, November 2014.

"IP Valuation," Maryland State Bar Association IP Section Roundtable, September 2013.

"IP Valuation Basics and the Impact of Recent Transactions, Legislation & Litigation," United States Patent and Trademark Office, October 2012.

#### **Awards and Achievements**

Recipient of the 2017 AICPA Forensic and Valuation Services (FVS) Standing Ovation Recognition.